APTD-1465

AIR QUALITY DATA FOR ORGANICS 1969 AND 1970

from the National Air Surveillance Networks

ENVIRONMENTAL PROTECTION AGENCY

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1969 AND 1970

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ENVIRONMENTAL PROTECTION AGENCY
Office of Air and Water Programs
Office of Air Quality Planning and Standards
Research Triangle Park, North Carolina 27711

June 1973

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PREFACE

The Quality Assurance and Environmental Monitoring Laboratory of the National Environmental Research Center-Research Triangle Park, with the assistance and cooperation of state and local agencies, conducts a variety of air sampling activities to obtain information about the air quality in the United States. Data from independent state and local sampling networks that have contributed their results to the National Aerometric Data Bank are available from the Monitoring and Data Analysis Division, Office of Air and Water Programs. The data reported are for benzene-soluble organics and benzo(a)pyrene, organic components of particulate matter.

Updated listings for this notebook will be provided as more current data are available. Any subsequent changes in the introductory material (site descriptions, data table presentations, laboratory methodology, etc.) made by EPA will be forwarded on a routine basis.

ACKNOWLEDGMENTS

The data reported in this publication could not have been gathered without the generous cooperation of the many state and local air pollution control agencies in the operation of the NASN stations. Gratitude is also due the agencies that have participated in this operation.

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ABSTRACT

Particulate pollutant data gathered during 1969 and 1970 by the cooperating stations of the National Air Surveillance Networks provide the basis for listing the concentrations of the organic fraction of suspended particulate matter. The total amounts of benzene-soluble organic compounds and benzo(a)pyrene, a polynuclear aromatic hydrocarbon present in the benzene-soluble fraction, were measured in the laboratory using particulate samples collected at urban and nonurban sites.

The data are presented in a quarterly composite format. A previous EPA publication, APTD-0978, lists organic fractions of suspended particulate matter for 1968.

AIR QUALITY DATA FOR ORGANICS
1969 AND 1970

SECTION 1. INTRODUCTION

The Environmental Protection Agency (EPA), with the assistance and cooperation of state and local agencies, conducts a variety of air sampling activities to obtain information about the air quality in the United States. EPA generally provides the equipment, supplies, and laboratory analytical services; the cooperating agency provides the sampling site and the manpower. In addition to assisting in the operation of the EPA sampling network, many state and local air pollution control agencies operate their own air pollution control programs. Many such agencies contribute their data to EPA's aerometric data bank, and these data are included in other EPA publications. Data on the concentrations of benzene-soluble organic (BSO) fractions and benzo(a)pyrene (BaP) in suspended particulate matter collected at urban and nonurban sampling sites during 1969 and 1970 are included in this publication.

SAMPLING LOCATIONS

The monitoring sites are divided into two groups, urban sites located within a city or town or its suburban environs and nonurban sites located in rural or remote areas, in order to provide an indication of background levels of BSO and BaP. Within each section the data are arranged by year, then by urban and nonurban sites for that specific year.

Each monitoring site is assigned a unique code number. Details of site coding and a list of codes already assigned are found in the SAROAD Station Coding Manual.[1] Briefly, each twelve-digit site identification number is assigned as follows: the first two digits identify the state; the next four digits identify a city of at least 2500 persons, or a county (in some states, the corresponding jurisdiction is a parish, election district, or regional planning district); and the next three digits designate a specific address where the sampling equipment is operated. For example, 010380001 A01 refers to state 01 (Alabama), city 0380 (Birmingham), and site 001 (619 South 19th Street). The final three characters (A01) designate the agency project code. Some of the principal agency project codes are:

- A01 EPA, population-oriented surveillance
- A03 EPA, background surveillance
- F01 State agency, population-oriented surveillance
- G01 County agency, population-oriented surveillance
- H01 City agency, population-oriented surveillance

A list of sampling site addresses is available in a separate publication.[2]

SAMPLING SCHEDULES

National Air Surveillance Networks (NASN) data originate from a bi-weekly (26 samples per year) modified random sampling schedule. The schedule is modified to ensure equal representation of each day of the week.

DESCRIPTION OF DATA TABLES

The basic format of data presentation is a quarterly composite table. For each site, a composite concentration value is reported for each of the four quarters of the calendar year and a yearly average is reported whenever valid data for all four quarters are obtained.

Data are judged to be representative and are included in the tables if there are at least five valid samples per quarter at each site. Furthermore, if no valid samples are reported in one month of a quarter, neither of the other two months in that quarter may have less than two valid samples if data for that quarter are to be reported. The yearly average presented in the tables is computed when at least three of a station's quarterly composite values exceed the minimum detectable concentration. When only one composite is below the minimum detectable, that value is replaced with one-half of the minimum detectable concentration and this value is used to compute the yearly average. When two or more composites are below the minimum detectable, the yearly average is not computed and the field is represented with an asterisk.

Table 1-1 lists the minimum detectable concentrations, urban and nonurban, for BSO fractions and BaP.

Table 1-1. URBAN AND NONURBAN DETECTABLE CONCENTRATIONS FOR ORGANICS

	Detectable concentration	
Organic	Urban	Nonurban
Benzene-soluble organic fractions	0.2 $\mu g/m^3$	0.10 $\mu g/m^3$
Benzo(a)pyrene	0.2 ng/m^3	0.08 ng/m^3

REFERENCES

1. Fair, D.H. SAROAD Station Coding Manual. U.S. Environmental Protection Agency, Office of Air Programs. Research Triangle Park, North Carolina. Publication No. APTD-0907. February 1972.
2. Directory of Air Quality Monitoring Sites, 1971. U.S. Environmental Protection Agency, Office of Air Programs. Research Triangle Park, North Carolina. Publication No. APTD-0979. April 1972.

SECTION 2. LABORATORY METHODS

SUSPENDED PARTICULATE MATTER

The mass of particulate matter per volume of air is usually determined by drawing air through a pre-weighed glass filter with a high-volume (Hi-Vol) air sampler and then weighing the soiled filter. A calibrated rotameter is read at the start and finish of the sampling period, and the averaged value is used with a calibration table for that rotameter to obtain the flow rate. The known sampling period (24 hours) and the measured flow rate allow for calculation of the volume of air samples. The following procedure is used by EPA for all sampling conducted by NASN.

The Hi-Vol samplers, operating at approximately 1.5 cubic meters per minute, collect particulate matter from about 2200 cubic meters of air during the 24-hour sampling period. The filters used are 8- by 10-inch flash-fired glass-fiber filters selected for low and uniform background concentrations of those substances to be measured.

To eliminate any filters having pinholes or other flows that could affect air flow, the filters are screened for imperfections on a light table and then numbered. Prior to weighing, they are equilibrated for a minimum of 24 hours at a temperature of 24° Centigrade and a relative humidity of 50 percent or less. Because any crease in a filter can seriously affect the air flow, filters are weighed with a balance that permits weighing without bending.

The filters are then distributed unfolded to the cooperating local agencies. After sampling, the filters are folded in half with the collected particulate matter inside and returned to the laboratory. The filter with the collected particulates is again equilibrated for at least 24 hours at a temperature of 24° Centigrade and a relative humidity of 50 percent or less, and then weighed to determine the amount of particulate matter that was collected.

ORGANIC PARTICULATE MATTER

Benzene-soluble organics are determined by extraction of the samples with benzene in a Soxhlet extractor for 6 hours. This extraction process removes more than 90 percent of the benzene-soluble organic materials. After extraction, the solution is concentrated and then filtered into a tared vial. The remaining benzene is evaporated at 60° Centigrade and the residue is weighed.

The benzo(a)pyrene component of the benzene-soluble organic residue is determined after separating the different components by thin-layer chromatography and by removal of the BaP from the thin-layer absorbent. The BaP is then dissolved in sulfuric acid and its concentration is measured by fluorescence spectroscopy. BaP concentrations are expressed in nanograms per cubic meter.

SECTION 3. URBAN AND NONURBAN ORGANICS IN SUSPENDED PARTICULATES: BENZENE-SOLUBLE ORGANIC FRACTIONS

Table 3-1. BENZENE-SOLUBLE ORGANIC FRACTION, URBAN QUARTERLY COMPOSITES AND YEARLY AVERAGES, 1969

($\mu g/m^3$)

LOCATION	1ST QTR.	2ND QTR.	3RD QTR.	4TH QTR.	YR. AVG.
ALABAMA					
GADSDEN					
011480001 A01	4.2	4.2	2.2	4.6	3.8
HUNTSVILLE					
011860001 A01	3.6	4.1	3.3	6.1	4.3
MOBILE					
012380001 A01	11.6	9.4	6.7	17.9	11.4
MONTGOMERY					
012460001 A01	6.9	8.4	5.0	10.8	7.8
ALASKA					
ANCHORAGE					
020040003 A01	5.0	4.9	7.0	5.9	5.7
FAIRBANKS					
020160001 A01	13.7	12.3	14.8	18.4	14.8
ARIZONA					
PHOENIX					
030600002 A01	7.9	4.3	5.1	22.3	9.9
TUCSON					
030860001 A01	3.5	1.9	2.0	4.9	3.1
ARKANSAS					
LITTLE ROCK					
041440001 A01	4.1	4.8	4.5	9.3	5.7
TEXARKANA					
042560001 A01	6.1	3.3	3.9	9.9	5.8
WEST MEMPHIS					
042740001 A01	4.4	2.5	3.4	10.5	5.2
CALIFORNIA					
ANAHEIM					
050230001 A01	5.6	3.9	5.3	14.9	7.4
BURBANK					
050900002 A01	9.5	5.1	9.3	14.4	9.6
FRESNO					
052800001 A01	5.6	4.0	5.7	24.2	9.9
GLENDALE					
052940001 A01	6.8	4.6	10.9	11.6	8.5
LONG BEACH					
054100001 A01	9.6	3.3	5.1	15.0	8.2
LOS ANGELES					
054180001 A01	14.0	6.5	8.1	21.2	12.4
OAKLAND					
055300001 A01	7.9	3.5	3.7	10.8	6.5
ONTARIO					
055380001 A01	3.8	4.0	9.4	6.2	5.8
RIVERSIDE					
056400001 A01	6.3	5.0	10.3	8.5	7.5
SACRAMENTO					
056580001 A01	4.2	3.5	4.2	16.8	7.2
SAN BERNARDINO					
056680001 A01	4.4	3.3	8.7	8.3	6.2
SAN DIEGO					
056800001 A01	7.1	3.1	2.6	13.9	6.7
SAN FRANCISCO					
056860001 A01	4.3	2.8	3.1	9.1	4.8
SAN JOSE					
056980002 A01	6.5	3.7	4.4	12.7	6.8
SANTA ANA					
057180001 A01	6.5	3.1	4.2	13.8	6.9
TORRANCE					
058260001 A01	7.5	2.9	3.8	16.8	7.7
COLORADO					
DENVER					
060580001 A01	11.2	3.9	5.6	15.3	9.0
CONNECTICUT					
BRIDGEPORT					
070060001 A01	4.2	3.9	3.5	5.5	4.3
CONNECTICUT (CONT)					
HARTFORD					
070420001 A01	5.7	3.3	3.7	4.7	4.3
NEW HAVEN					
070700001 A01	5.5	4.8	4.8	7.3	5.4
WATERBURY					
071240001 A01	6.9	4.4	4.6	5.0	5.2
DELAWARE					
WILMINGTON					
080260001 A01	7.8	5.0	9.3	8.1	7.5
DIST COLUMBIA					
WASHINGTON					
090020001 A01	7.1	5.4	5.5	7.2	6.3
FLORIDA					
JACKSONVILLE					
101960002 A01	10.1	5.5	4.6	7.0	6.8
MIAMI					
102700002 A01	3.4	3.6	3.7	5.8	4.1
ST PETERSBURG					
103980002 A01	2.8	1.3	1.1	2.7	2.0
TAMPA					
104360002 A01	4.4	3.3	2.8	5.8	4.1
GEORGIA					
ATLANTA					
110200001 A01	6.3	6.8	5.5	7.6	6.5
COLUMBUS					
111280001 A01	5.9	5.1	3.3	6.4	5.2
SAVANNAH					
114500001 A01	6.6	3.0	2.5	5.6	4.4
HAWAII					
HONOLULU					
120120001 A01	2.8	2.1	1.5	2.8	2.3
IDAHO					
BOISE CITY					
130220001 A01	5.3	4.7	5.1	16.0	7.8
ILLINOIS					
CHICAGO					
141220001 A01	7.0	8.4	6.7	7.3	7.3
EAST ST LOUIS					
142120001 A01	9.7	4.8	4.7	7.2	6.6
JOLIET					
143760001 A01	4.2	5.7	6.2	8.5	6.1
NORTH CHICAGO					
145620002 A01	3.1	5.9	5.9	5.7	5.1
PEORIA					
146080001 A01	4.4	5.3	5.6	6.6	5.5
ROCKFORD					
146680001 A01	7.2	4.0	4.1	5.3	5.1
SPRINGFIELD					
147280001 A01	3.8	3.7	3.9	4.9	4.1
INDIANA					
EAST CHICAGO					
151180001 A01	5.7	8.0	7.4	7.1	7.0
EVANSVILLE					
151300001 A01	3.4	5.4	4.0	5.7	4.6
FORT WAYNE					
151380001 A01	4.0	4.6	4.6	7.4	5.1
GARY					
151520001 A01	4.8	6.5	8.7	8.7	7.2
HAMMOND					
151780001 A01	4.2	6.5	6.1	8.2	6.2
INDIANAPOLIS					
152040001 A01	6.2	9.4	6.8	11.0	8.3

Table 3-1 (continued). BENZENE-SOLUBLE ORGANIC FRACTION, URBAN QUARTERLY COMPOSITES AND YEARLY AVERAGES, 1969

($\mu g/M^3$)

LOCATION	1ST QTR.	2ND QTR.	3RD QTR.	4TH QTR.	YR. AVG.
INDIANA					
NEW ALBANY					
152980002 A01	6.1	5.3	4.9	5.5	5.4
SOUTH BEND					
153880002 A01	3.5	5.5	5.0	10.3	6.1
TERRE HAUTE					
154080001 A01	4.7	7.0	4.0	5.3	5.2
IOWA					
DAVENPORT					
161060001 A01	8.3	6.4	4.5	9.0	7.0
DES MOINES					
161180001 A01	3.6	4.0	4.1	5.4	4.3
DUBUQUE					
161260001 A01	4.0	5.3	4.1	6.8	5.0
KANSAS					
KANSAS CITY					
171800002 A01	7.1	4.4	7.0	15.6	8.5
TOPEKA					
173560001 A01	2.3	2.7	2.6	6.5	3.5
WICHITA					
173740001 A01	2.4	2.8	3.5	5.6	3.6
KENTUCKY					
ASHLAND					
180080002 A01	13.2	6.1	13.8	8.0	10.3
COVINGTON					
180800001 A01	5.4	6.7	5.2	9.0	6.6
LOUISVILLE					
182380001 A01	5.0	6.3	5.7	6.1	5.8
LOUISIANA					
BATON ROUGE					
190280001 A01	3.4	3.4	3.5	8.0	4.6
NEW ORLEANS					
192020002 A01	4.7	5.6	4.8	12.1	6.8
SHREVEPORT					
192740001 A01	3.7	4.7	4.5	10.5	5.8
MARYLAND					
BALTIMORE					
210120001 A01	7.5	7.2	6.7	7.6	7.2
MASSACHUSETTS					
BOSTON					
220240001 A01	6.7	5.2	6.8	5.4	6.0
FALL RIVER					
220580002 A01	4.7	3.2	3.8	2.8	3.6
SPRINGFIELD					
222160002 A01	5.5	3.5	3.8	6.6	4.8
WORCHESTER					
222640001 A01	5.5	5.3	6.4	6.7	6.0
MICHIGAN					
DEARBORN					
231140001 A01	6.8	5.2	7.4	6.6	6.5
DETROIT					
231180001 A01	5.3	6.1	6.3	5.9	5.9
FLINT					
231580001 A01	3.2	3.9	3.1	4.8	3.7
GRAND RAPIDS					
231820001 A01	3.8	5.3	3.5	4.3	4.2
LANSING					
232840001 A01	3.4	4.2	3.9	4.5	4.0
SAGINAW					
234760001 A01	3.7	4.1	4.3	4.2	4.1
TRENTON					
235120001 A01	3.6	3.3	3.9	5.9	4.2
MINNESOTA					
DULUTH					
241040001 A01	3.6	5.7	4.1	4.0	4.3

LOCATION	1ST QTR.	2ND QTR.	3RD QTR.	4TH QTR.	YR. AVG.
MINNESOTA (CONT)					
MINNEAPOLIS					
242260001 A01	4.4	6.2	3.5	10.1	6.0
MOORHEAD					
242320001 A01	3.5	3.6	3.7	3.5	3.6
ST PAUL					
243300001 A01	5.8	4.6	4.0	6.0	5.1
MISSOURI					
KANSAS CITY					
262380002 A01	5.9	4.1	6.1	11.0	6.8
ST LOUIS					
264280001 A01	6.5	9.3	9.6	19.4	11.2
MONTANA					
HELENA					
270720001 A01	4.9	1.6	1.8	3.9	3.0
NEBRASKA					
OMAHA					
281880001 A01	4.4	4.9	5.6	6.8	5.4
NEVADA					
LAS VEGAS					
290320001 A01	4.5	2.2	5.1	10.5	5.6
RENO					
290480001 A01	7.6	3.8	6.5	18.8	9.2
NEW HAMPSHIRE					
CONCORD					
300120001 A01	2.9	2.1	3.2	3.2	2.8
NEW JERSEY					
CAMDEN					
310720001 A01	5.7	5.4	9.1	8.8	7.2
ELIZABETH					
311300001 A01	5.2	5.1	5.5	5.7	5.4
GLASSBORO					
311700001 A01	2.7	3.8	5.7	4.2	4.1
HAMILTON					
311940001 A01	2.9	3.3	5.3	5.7	4.3
JERSEY CITY					
312320001 A01	6.6	6.1	6.2	6.4	6.3
NEWARK					
313480001 A01	5.0	5.0	7.2	6.3	5.9
PATERSON					
314140001 A01	6.5	4.1	6.4	3.7	5.2
PERTH AMBOY					
314220001 A01	4.3	3.5	4.7	5.1	4.4
TRENTON					
315400001 A01	3.6	6.7	6.3	4.7	5.3
NEW MEXICO					
ALBUQUERQUE					
320040001 A01	3.4	2.1	3.0	10.5	4.7
NEW YORK					
ALBANY					
330040001 A01	2.9	2.2	3.4	3.8	3.1
BUFFALO					
330660001 A01	4.3	3.9	4.6	7.1	5.0
NEW YORK CITY					
334680001 A01	11.6	11.4	5.1	7.3	8.8
NIAGARA FALLS					
334740001 A01	2.9	3.1	3.6	2.9	3.1
ROCHESTER					
335760001 A01	3.7	5.5	5.9	7.0	5.5
SYRACUSE					
336620001 A01	5.5	4.6	4.3	4.6	4.7
UTICA					
336880001 A01	3.2	5.5	5.1	4.9	4.7

Table 3-1 (continued). BENZENE-SOLUBLE ORGANIC FRACTION, URBAN QUARTERLY COMPOSITES AND YEARLY AVERAGES, 1969

($\mu g/m^3$)

LOCATION	1ST QTR.	2ND QTR.	3RD QTR.	4TH QTR.	YR. AVG.
NORTH CAROLINA					
CHARLOTTE					
340700001 A01	10.1	4.5	4.6	8.3	6.9
DURHAM					
341160001 A01	6.8	4.3	4.7	10.2	6.5
GREENSBORO					
341740001 A01	5.5	3.7	5.1	9.0	5.8
WINSTON-SALEM					
344460002 A01	5.1	4.8	7.0	10.6	6.9
NORTH DAKOTA					
BISMARCK					
350100001 A01	3.1	3.5	3.5	6.1	4.0
OHIO					
AKRON					
360060001 A01	5.4	8.1	6.4	5.4	6.3
CANTON					
361000001 A01	4.8	6.7	7.8	7.0	6.6
CINCINNATI					
361220001 A01	4.8	17.6	5.7	7.0	8.8
CLEVELAND					
361300001 A01	4.1	9.2	6.1	4.7	6.0
COLUMBUS					
361460001 A01	4.6	6.4	4.4	5.1	5.1
DAYTON					
361660001 A01	4.1	5.4	4.3	4.9	4.7
TOLEDO					
366600001 A01	2.7	3.6	4.8	4.8	4.0
YOUNGSTOWN					
367760001 A01	7.1	6.4	7.7	6.0	6.8
OKLAHOMA					
OKLAHOMA CITY					
372200001 A01	2.6	3.2	5.6	7.0	4.6
TULSA					
373000001 A01	2.4	2.2	2.7	5.0	3.1
OREGON					
MEDFORD					
381160001 A01	16.8	9.4	9.2	37.1	18.1
PORTLAND					
381460001 A01	4.9	4.8	4.2	12.4	6.6
PENNSYLVANIA					
ALLENTOWN					
390120001 A01	5.8	4.3	4.5	6.0	5.1
ALTOONA					
390140001 A01	9.8	10.7	7.1	14.3	10.5
BETHLEHEM					
390780002 A01	3.4	3.3	5.0	4.8	4.1
ERIE					
393060002 A01	2.4	3.3	3.0	2.6	2.8
HARRISBURG					
393880001 A01	3.7	5.3	4.6	4.7	4.6
HAZLETON					
393960001 A01	10.9	5.6	6.2	4.8	6.9
JOHNSTOWN					
394460001 A01	5.3	7.1	6.5	7.4	6.6
PHILADELPHIA					
397140001 A01	7.9	7.3	7.9	8.8	8.0
PITTSBURGH					
397260001 A01	10.1	9.7	7.0	6.1	8.2
READING					
397620001 A01	4.5	4.3	5.5	4.7	4.7
SCRANTON					
398040001 A01	17.9	17.7	14.9	13.1	15.9
WARMINSTER					
399160001 A01	2.6	3.1	2.4	3.2	2.8
WEST CHESTER					
399280001 A01	3.2	3.1	3.8	3.9	3.5
WILKES-BARRE					
399430001 A01	5.7	5.4	4.5	4.5	5.0
YORK					
399560001 A01	3.9	6.2	4.5	9.5	6.0
PUERTO RICO					
BAYAMON					
400380002 A01	4.9	4.8	5.3	9.0	6.0
PONCE					
401920002 A01	5.5	3.4	5.5	6.5	5.2
SAN JUAN					
402140001 A01	6.0	5.3	8.0	8.2	6.9
RHODE ISLAND					
EAST PROVIDENCE					
410120001 A01	3.4	3.8	5.3	4.4	3.7
PROVIDENCE					
410300001 A01	5.5	4.7	4.6	6.9	5.4
SOUTH CAROLINA					
COLUMBIA					
420760001 A01	3.4	2.5	3.1	3.7	3.2
GREENVILLE					
421180001 A01	8.6	6.6	4.9	9.3	7.3
TENNESSEE					
CHATTANOOGA					
440380001 A01	6.8	6.0	5.8	9.0	6.9
KNOXVILLE					
441740001 A01	6.6	5.1	5.7	8.2	6.4
MEMPHIS					
442340001 A01	2.9	4.9	4.3	7.6	4.9
NASHVILLE					
442540001 A01	5.1	7.4	5.3	9.0	6.7
TEXAS					
DALLAS					
451310002 A01	5.8	4.2	5.0	13.8	6.7
FORT WORTH					
451880001 A01	5.1	3.7	3.9	8.5	5.3
PASADENA					
454060002 A01	2.1	3.1	3.8	6.8	3.9
SAN ANTONIO					
454570001 A01	3.3	1.5	2.3	10.4	4.4
UTAH					
OGDEN					
460680001 A01	4.0	2.0	3.2	7.7	4.2
SALT LAKE CITY					
460920001 A01	4.3	1.9	3.3	7.5	4.2
VERMONT					
BURLINGTON					
470140001 A01	1.7	2.0	1.6	3.5	2.2
VIRGINIA					
DANVILLE					
480920001 A01	4.9	3.0	3.9	5.8	4.4
HAMPTON					
481440001 A01	3.9	2.7	2.3	3.5	3.1
LYNCHBURG					
481840001 A01	8.1	7.7	4.6	8.4	7.2
NEWPORT NEWS					
482120001 A01	4.8	3.7	3.3	4.3	4.0
NORFOLK					
482140001 A01	3.2	4.1	4.3	4.9	4.1
PORTSMOUTH					
482440001 A01	5.7	4.0	5.1	5.5	5.1

Table 3-1 (continued). BENZENE-SOLUBLE ORGANIC FRACTION, URBAN QUARTERLY COMPOSITES AND YEARLY AVERAGES, 1969

($\mu g/m^3$)

LOCATION	1ST QTR.	2ND QTR.	3RD QTR.	4TH QTR.	YR. AVG.
VIRGINIA					
RICHMOND					
482660002 A01	4.4	5.1	5.3	7.0	5.4
ROANOKE					
482700001 A01	7.3	5.0	4.8	7.5	6.3
WASHINGTON					
SEATTLE					
491840001 A01	3.7	4.1	4.0	11.9	5.9
SPOKANE					
492040001 A01	6.2	3.6	5.2	11.4	6.6
TACOMA					
492140001 A01	5.0	3.7	3.8	19.5	8.0
WEST VIRGINIA					
CHARLESTON					
500280001 A01	6.5	6.4	4.0	7.8	6.3
WISCONSIN					
EAU CLAIRE					
510840002 A01	3.5	2.3	2.0	4.1	3.1

LOCATION	1ST QTR.	2ND QTR.	3RD QTR.	4TH QTR.	YR. AVG.
WISCONSIN (CONT)					
KENOSHA					
511540001 A01	3.7	4.3	4.4	5.1	4.4
MADISON					
511860001 A01	3.4	3.0	4.6	6.8	4.4
MILWAUKEE					
512200001 A01	5.2	6.0	5.7	7.1	6.0
RACINE					
512880001 A01	2.0	3.4	2.0	3.2	2.6
SUPERIOR					
513480001 A01	2.9	2.7	2.8	4.6	3.2
WYOMING					
CASPER					
520120001 A01	2.2	2.8	4.5	4.5	3.5
CHEYENNE					
520140001 A01	1.6	1.1	1.9	3.0	1.9

Table 3-2. BENZENE-SOLUBLE ORGANIC FRACTION, NONURBAN QUARTERLY COMPOSITES AND YEARLY AVERAGES, 1969

($\mu g/m^3$)

LOCATION	1ST QTR.	2ND QTR.	3RD QTR.	4TH QTR.	YR. AVG.
ARIZONA					
GRAND CANYON NAT P					
030370001 A03	1.0	0.8	2.0	1.5	1.3
ARKANSAS					
MONTGOMERY CO					
041760001 A03	1.0	2.1	2.4	2.0	1.9
CALIFORNIA					
HUMBOLDT CO					
053300001 A03	3.1	1.5	1.7	4.9	2.8
COLORADO					
MESA VERDE NAT PAR					
061530002 A03	0.1	1.0	1.3	1.5	1.1
FLORIDA					
HARDEE CO					
101680001 A03	2.6	1.3	4.0	2.8	2.7
IDAHO					
BUTTE CO					
130340001 A03	0.6	0.6	1.0	1.3	0.9
INDIANA					
MONROE CO					
152800001 A03	1.6	1.6	2.0	3.0	2.0
PARKE CO					
153260001 A03	1.6	2.1	1.8	3.5	2.2
MAINE					
ACADIA NAT PARK					
200010001 A03	0.8	0.9	1.4	1.0	1.0
MARYLAND					
CALVERT CO					
210280001 A03	2.3	2.5	2.1	1.9	2.3
MISSOURI					
SHANNON CO					
264480002 A03	1.7	1.8	1.8	2.5	1.9
MONTANA					
GLACIER NAT PARK					
270570001 A03	0.9	1.1	1.9	1.4	1.3
NEBRASKA					
THOMAS CO					
282480001 A03	1.1	1.1	0.9	1.0	1.0
NEVADA					
WHITE PINE CO					
290560001 A03	0.8	0.8	0.9	1.0	0.9
NEW HAMPSHIRE					
COOS CO					
300140001 A03	0.7	1.1	1.3	1.3	1.1
NEW YORK					
JEFFERSON CO					
333340001 A03	1.5	1.4	2.1	2.1	1.8
NORTH CAROLINA					
CAPE HATTERAS NAT					
340590001 A03	1.4	1.0	0.8	1.3	1.1
OKLAHOMA					
CHEROKEE CO					
370480001 A03	1.3	2.4	1.8	4.8	2.5
OREGON					
CURRY CO					
380440001 A03	1.1	0.8	1.2	1.6	1.2
PENNSYLVANIA					
CLARION CO					
391760001 A03	2.3	2.1	2.0	2.4	2.4
RHODE ISLAND					
WASHINGTON CO					
410380002 A03	1.7	1.9	2.6	1.7	2.0
SOUTH CAROLINA					
RICHLAND CO					
421900001 A03	3.6	1.9	2.5	3.7	2.9
SOUTH DAKOTA					
BLACK HILLS NAT FO					
430110001 A03	0.8	1.1	1.7	1.0	1.1
TENNESSEE					
CUMBERLAND CO					
440680001 A03	2.0	1.2	1.9	2.2	1.8
TEXAS					
MATAGORDA CO					
453530001 A03	0.8	1.1	1.1	2.5	1.4
VERMONT					
ORANGE CO					
470360001 A03	1.4	1.5	1.7	1.9	1.6
VIRGINIA					
SHENANDOAH NAT PAR					
482890001 A03	1.1	1.5	1.9	1.6	1.5
WYTHE CO					
483440001 A03	1.7	1.3	1.6	1.9	1.6
WISCONSIN					
DOOR CO					
510780001 A03	0.6	1.4	1.7	1.6	1.3
WYOMING					
YELLOWSTONE NAT PA					
520860001 A03	0.6	0.8	0.9	1.7	1.0

Table 3-3. BENZENE-SOLUBLE ORGANIC FRACTION, URBAN QUARTERLY COMPOSITES AND YEARLY AVERAGES, 1970

($\mu g/m^3$)

LOCATION	1ST QTR.	2ND QTR.	3RD QTR.	4TH QTR.	YR. AVG.
ALABAMA					
GADSDEN					
011480001 A01	4.7	3.6	2.8	4.7	3.9
HUNTSVILLE					
011860001 A01	5.4	2.8	2.7	4.6	3.9
MONTGOMERY					
012460001 A01	8.1	5.6	5.0	6.8	6.4
ALASKA					
ANCHORAGE					
020040003 A01	5.6	3.9	3.8	4.4	4.4
ARIZONA					
MARICOPA CO					
030440001 A01	1.3	1.0	0.9	2.0	1.3
TUCSON					
030860001 A01	4.4	2.2	1.8	4.7	3.3
ARKANSAS					
LITTLE ROCK					
041440001 A01	4.0	3.1	2.8	5.7	3.9
WEST MEMPHIS					
042740001 A01	2.4	2.5	3.9	5.4	3.5
CALIFORNIA					
ANAHEIM					
050230001 A01	6.6	4.5	4.9	9.6	6.4
BURBANK					
050900002 A01	10.9	8.4	14.3	11.7	11.3
FRESNO					
052800002 A01	11.2	3.5	4.7	9.2	7.1
GLENDALE					
052940001 A01	8.0	4.8	7.6	6.7	6.8
LONG BEACH					
054100001 A01	7.9	2.3	2.9	7.7	5.2
LOS ANGELES					
054180001 A01	12.5	6.0	9.4	8.4	9.1
OAKLAND					
055300001 A01	5.9	2.1	3.8	5.1	4.2
ONTARIO					
055380001 A01	4.9	5.5	9.1	5.2	6.2
PASADENA					
055760002 A01	7.3	3.9	11.1	8.2	7.6
RIVERSIDE					
056400001 A01	6.8	5.2	8.1	6.7	6.7
SACRAMENTO					
056580001 A01	6.4	2.1	3.0	3.3	3.7
SAN BERNARDINO					
056680001 A01	5.7	5.7	11.5	12.4	8.8
SAN DIEGO					
056800001 A01	6.1	1.8	4.4	4.3	3.6
SAN FRANCISCO					
056860001 A01	4.4	2.1	2.1	4.5	3.2
SANTA ANA					
057180001 A01	6.4	3.7	5.7	8.5	5.6
TORRANCE					
058260001 A01	5.2	2.8	2.3	7.9	4.5
COLORADO					
DENVER					
060580001 A01	13.1	4.6	3.6	11.1	8.1
CONNECTICUT					
BRIDGEPORT					
070060001 A01	4.7	2.0	2.6	4.3	3.4
HARTFORD					
070420001 A01	3.5	2.2	3.0	4.1	3.2
NEW HAVEN					
070700001 A01	6.4	3.3	3.2	4.8	4.4
WATERBURY					
071240001 A01	6.3	3.9	2.9	5.9	4.7

LOCATION	1ST QTR.	2ND QTR.	3RD QTR.	4TH QTR.	YR. AVG.
DELAWARE					
NEWARK					
080140001 A01	2.3	1.7	2.2	2.8	2.2
WILMINGTON					
080260003 A01	6.9	5.7	4.0	6.2	5.7
FLORIDA					
JACKSONVILLE					
101960002 A01	5.7	3.6	3.2	6.5	4.7
MIAMI					
102700002 A01	3.9	1.6	2.6	3.9	3.0
ST PETERSBURG					
103980002 A01	1.7	0.8	0.8	2.0	1.3
TAMPA					
104360002 A01	4.1	2.4	2.3	4.2	3.2
GEORGIA					
ATLANTA					
110200001 A01	6.9	4.8	3.5	4.1	4.8
COLUMBUS					
111280001 A01	5.9	4.3	3.4	3.8	4.3
SAVANNAH					
114500001 A01	6.3	2.2	2.4	4.6	3.9
HAWAII					
HONOLULU					
120120001 A01	2.0	1.2	1.1	1.8	1.5
IDAHO					
BOISE CITY					
130220001 A01	5.7	2.2	3.0	4.5	3.8
ILLINOIS					
CHICAGO					
141220001 A01	6.6	4.4	7.4	5.0	5.8
NORTH CHICAGO					
145620002 A01	2.5	4.5	3.3	5.0	3.8
PEORIA					
146080001 A01	5.1	3.9	4.6	5.6	4.8
SPRINGFIELD					
147280001 A01	3.7	2.6	3.8	3.6	3.4
INDIANA					
EAST CHICAGO					
151180001 A01	8.0	4.6	4.6	6.6	5.9
EVANSVILLE					
151300001 A01	4.3	1.8	3.1	2.7	3.0
FORT WAYNE					
151380001 A01	4.9	3.2	3.5	5.1	4.2
GARY					
151520001 A01	7.5	4.2	4.6	5.2	5.4
HAMMOND					
151780001 A01	6.8	3.5	4.6	4.8	4.9
INDIANAPOLIS					
152040001 A01	6.3	4.0	4.4	5.4	5.0
NEW ALBANY					
152980002 A01	8.3	2.8	2.6	5.7	4.8
SOUTH BEND					
153880002 A01	7.5	4.0	2.7	4.9	4.8
TERRE HAUTE					
154080001 A01	6.4	2.2	3.3	3.6	3.9
IOWA					
CEDAR RAPIDS					
160640001 A01	3.4	2.3	2.7	4.8	3.3
DAVENPORT					
161060001 A01	6.4	3.3	4.9	7.4	5.5
DES MOINES					
161180001 A01	3.8	2.9	3.9	4.2	3.7

Table 3-3 (continued). BENZENE-SOLUBLE ORGANIC FRACTION, URBAN QUARTERLY COMPOSITES AND YEARLY AVERAGES, 1970

($\mu g/m^3$)

LOCATION	1ST QTR.	2ND QTR.	3RD QTR.	4TH QTR.	YR. AVG.
KANSAS					
KANSAS CITY					
171800002 A01	6.7	3.2	4.0	10.6	6.1
TOPEKA					
173560001 A01	3.2	2.6	2.0	4.6	3.1
WICHITA					
173740001 A01	3.8	2.8	3.0	3.6	3.3
KENTUCKY					
ASHLAND					
180080002 A01	5.5	5.4	5.1	7.1	5.8
BOWLING GREEN					
180320001 A01	2.6	2.1	3.0	2.7	2.6
COVINGTON					
180800001 A01	7.4	4.9	4.1	5.2	5.4
LEXINGTON					
182300001 A01	3.6	2.3	2.1	4.1	3.0
LOUISIANA					
BATON ROUGE					
190280001 A01	4.1	2.4	2.9	4.4	3.4
NEW ORLEANS					
192020002 A01	5.0	5.3	4.6	5.4	5.1
SHREVEPORT					
192740001 A01	4.1	4.3	3.4	7.6	4.8
MAINE					
PORTLAND					
200960002 A01	4.3	3.3	3.0	3.3	3.5
MARYLAND					
BALTIMORE					
210120001 A01	6.0	4.1	7.6	5.6	5.8
MASSACHUSETTS					
FALL RIVER					
220580002 A01	3.9	3.0	3.2	4.5	3.6
SPRINGFIELD					
222160002 A01	3.3	2.6	3.5	2.2	3.4
WORCHESTER					
222640001 A01	6.6	4.9	4.1	5.9	5.4
MICHIGAN					
DETROIT					
231180001 A01	5.3	4.5	3.9	3.9	4.4
FLINT					
231580001 A01	3.0	2.5	2.5	2.6	2.6
GRAND RAPIDS					
231820001 A01	3.6	2.5	3.0	3.0	3.5
LANSING					
232840001 A01	3.8	4.8	2.8	4.8	4.5
SAGINAW					
234760001 A01	3.1	2.6	3.2	3.1	3.0
TRENTON					
235120001 A01	4.8	2.5	2.7	2.9	3.2
MINNESOTA					
DULUTH					
241040001 A01	3.5	2.3	2.7	3.7	3.0
MINNEAPOLIS					
242260001 A01	4.7	2.9	2.9	3.8	3.6
MOORHEAD					
242320001 A01	3.4	2.9	2.8	5.2	3.6
ST PAUL					
243300001 A01	6.0	2.7	4.1	4.6	4.3
MISSOURI					
KANSAS CITY					
262380002 A01	7.9	3.8	5.4	6.8	6.0
NEBRASKA					
LINCOLN					
281560002 A01	3.6	1.8	1.9	2.4	2.4

LOCATION	1ST QTR.	2ND QTR.	3RD QTR.	4TH QTR.	YR. AVG.
NEBRASKA (CONT)					
OMAHA					
281880001 A01	5.4	4.5	4.4	4.7	4.7
NEW HAMPSHIRE					
CONCORD					
300120001 A01	3.4	1.2	2.1	3.2	2.5
NEW JERSEY					
BURLINGTON CO					
310660002 A01	8.0	2.9	2.3	3.2	4.1
CAMDEN					
310720001 A01	8.0	6.8	4.3	5.2	6.1
ELIZABETH					
311300002 A01	6.5	3.6	3.9	4.9	4.7
GLASSBORO					
311700001 A01	9.2	2.9	2.9	2.9	4.5
JERSEY CITY					
312320001 A01	7.5	4.5	5.3	6.0	5.8
NEWARK					
313480001 A01	6.6	4.1	4.9	6.3	5.5
PATERSON					
*314140001 A01	9.3	5.1	4.5	8.2	6.8
PERTH AMBOY					
314220001 A01	5.3	2.9	3.1	3.5	3.7
TRENTON					
315400001 A01	6.3	3.2	2.9	4.4	4.2
NEW MEXICO					
ALBUQUERQUE					
320040001 A01	4.7	2.1	2.7	8.0	4.5
NEW YORK					
BUFFALO					
330660001 A01	5.5	4.1	6.7	7.2	5.9
NEW YORK CITY					
334680001 A01	8.5	7.1	6.5	8.0	7.5
NIAGARA FALLS					
334740001 A01	3.5	2.6	2.3	3.5	3.0
ROCHESTER					
335760001 A01	6.1	6.1	5.1	5.8	5.8
SYRACUSE					
336620001 A01	4.9	4.0	3.6	4.4	4.2
UTICA					
336880001 A01	5.3	4.5	3.4	4.0	4.3
YONKERS					
337620001 A01	3.8	5.3	3.8	3.0	4.0
NORTH CAROLINA					
CHARLOTTE					
340700001 A01	7.0	3.0	2.0	5.1	4.3
DURHAM					
341160001 A01	7.7	4.6	3.2	7.4	5.7
GREENSBORO					
341740001 A01	6.4	4.4	3.8	5.7	5.1
WINSTON-SALEM					
344460002 A01	8.4	5.1	4.1	7.6	6.3
NORTH DAKOTA					
BISMARCK					
350100001 A01	3.7	2.3	2.3	4.1	3.1
OHIO					
CANTON					
361000001 A01	6.0	4.1	4.1	5.2	4.8
CINCINNATI					
361220001 A01	5.4	3.8	3.1	5.5	4.4
CLEVELAND					
361300001 A01	5.0	4.9	4.4	5.1	4.8
COLUMBUS					
361460001 A01	4.5	2.8	1.9	3.0	3.0

Table 3-3 (continued). BENZENE-SOLUBLE ORGANIC FRACTION, URBAN QUARTERLY COMPOSITES AND YEARLY AVERAGES, 1970

($\mu g/m^3$)

LOCATION	1ST QTR.	2ND QTR.	3RD QTR.	4TH QTR.	YR. AVG.
OHIO					
DAYTON					
361660001 A01	5.4	2.6	3.3	3.7	3.7
TOLEDO					
366600001 A01	3.1	2.9	3.3	3.6	3.2
YOUNGSTOWN					
367760001 A01	5.0	3.8	5.8	7.4	5.5
OKLAHOMA					
OKLAHOMA CITY					
372200001 A01	3.8	2.3	2.8	4.4	3.3
TULSA					
373000001 A01	3.5	3.7	2.1	2.6	3.0
OREGON					
PORTLAND					
381460001 A01	12.4	5.8	3.0	8.7	7.5
PENNSYLVANIA					
ALLENTOWN					
390120001 A01	6.8	4.1	4.1	7.8	5.7
ALTOONA					
390140001 A01	24.8	10.7	11.7	21.8	17.2
BETHLEHEM					
390780002 A01	4.8	3.4	4.2	4.6	4.2
ERIE					
393060002 A01	1.9	3.1	2.4	3.7	2.8
HARRISBURG					
393880001 A01	5.3	3.2	4.3	5.9	4.7
JOHNSTOWN					
394460001 A01	9.3	8.5	6.3	9.2	8.3
PHILADELPHIA					
397140001 A01	9.7	6.7	9.0	8.0	8.3
PITTSBURGH					
397260001 A01	5.9	4.6	6.1	7.6	6.0
READING					
397620001 A01	6.1	3.3	4.9	6.1	5.1
SCRANTON					
398040001 A01	13.6	11.1	8.3	15.9	12.2
WILKES-BARRE					
399430001 A01	5.7	3.9	4.1	4.3	4.5
YORK					
399560001 A01	5.4	3.4	4.0	5.0	4.4
PUERTO RICO					
BAYAMON					
400380002 A01	5.8	4.4	5.5	8.3	6.0
CATANO					
400560002 A01	7.0	5.0	7.1	7.6	6.7
GUAYANILLA					
401080002 A01	2.1	1.4	1.7	1.7	1.7
PONCE					
401920002 A01	5.6	3.8	3.3	5.1	4.4
SAN JUAN					
402140001 A01	7.5	6.5	6.5	6.8	6.8
RHODE ISLAND					
EAST PROVIDENCE					
410120001 A01	4.6	2.1	2.7	4.9	3.6
PROVIDENCE					
410300001 A01	5.2	3.5	3.8	6.1	4.6
SOUTH CAROLINA					
GREENVILLE					
421180001 A01	11.6	5.4	4.4	11.9	8.3
TENNESSEE					
CHATTANOOGA					
440380001 A01	13.9	4.2	3.3	11.7	8.3
MEMPHIS					
442340001 A01	3.6	2.8	3.7	5.9	4.0

LOCATION	1ST QTR.	2ND QTR.	3RD QTR.	4TH QTR.	YR. AVG.
TENNESSEE (CONT)					
NASHVILLE					
442540001 A01	9.6	4.3	3.6	8.1	6.4
TEXAS					
DALLAS					
451310002 A01	8.0	3.4	4.6	7.5	5.9
EL PASO					
451700002 A01	8.3	3.5	4.0	9.7	6.4
FORT WORTH					
451880001 A01	4.1	2.4	2.7	3.6	3.2
HOUSTON					
452560001 A01	4.2	3.2	3.3	7.0	4.4
PASADENA					
454060002 A01	3.8	2.1	2.7	4.5	3.3
SAN ANTONIO					
454570001 A01	2.8	2.2	1.9	5.8	3.2
UTAH					
OGDEN					
460680001 A01	8.6	4.1	5.6	9.5	6.9
SALT LAKE CITY					
460920001 A01	6.0	2.2	3.8	4.7	4.2
VERMONT					
BURLINGTON					
470140001 A01	3.0	2.3	2.5	2.7	2.6
VIRGINIA					
DANVILLE					
480920001 A01	7.2	3.5	3.6	6.3	5.1
HAMPTON					
481440001 A01	2.3	1.8	2.3	5.2	2.9
LYNCHBURG					
481840001 A01	9.6	5.0	4.5	10.6	7.6
NEWPORT NEWS					
482120001 A01	4.0	2.7	3.2	5.7	3.9
NORFOLK					
482140001 A01	4.3	2.4	2.6	4.5	3.4
PORTSMOUTH					
482440001 A01	6.2	3.3	3.2	7.2	5.0
RICHMOND					
482660002 A01	4.8	2.4	3.0	6.0	4.0
ROANOKE					
482700001 A01	7.8	4.8	4.3	9.4	6.6
WASHINGTON					
SEATTLE					
491840001 A01	7.0	3.1	4.4	5.8	5.1
SPOKANE					
492040001 A01	5.9	2.7	3.6	5.2	4.3
TACOMA					
492140001 A01	7.9	2.2	3.1	7.8	5.2
WEST VIRGINIA					
CHARLESTON					
500280001 A01	5.3	3.8	4.2	4.6	4.5
SOUTH CHARLESTON					
501760001 A01	3.8	3.6	4.0	4.5	4.0
WISCONSIN					
EAU CLAIRE					
510840002 A01	2.9	2.3	2.1	3.6	2.7
KENOSHA					
511540001 A01	3.0	1.6	3.1	4.2	3.0
MADISON					
511860001 A01	3.8	2.5	3.0	4.2	3.4
MILWAUKEE					
512200001 A01	5.1	3.1	3.7	4.4	4.1
RACINE					
512880001 A01	2.0	1.5	2.2	5.2	2.7

Table 3-3 (continued). BENZENE-SOLUBLE ORGANIC FRACTION, URBAN QUARTERLY COMPOSITES AND YEARLY AVERAGES, 1970

($\mu g/m^3$)

LOCATION	1ST QTR.	2ND QTR.	3RD QTR.	4TH QTR.	YR. AVG.
WISCONSIN					
SUPERIOR					
513480001 A01	4.6	2.0	2.2	3.4	3.0
WYOMING					
CASPER					
520120001 A01	1.4	1.8	2.8	2.2	2.0

LOCATION	1ST QTR.	2ND QTR.	3RD QTR.	4TH QTR.	YR. AVG.
WYOMING (CONT)					
CHEYENNE					
520140001 A01	1.3	1.2	1.5	3.2	1.8

Table 3-4. BENZENE-SOLUBLE ORGANIC FRACTION, NONURBAN QUARTERLY COMPOSITES AND YEARLY AVERAGES, 1970

($\mu g/m^3$)

LOCATION	1ST QTR.	2ND QTR.	3RD QTR.	4TH QTR.	YR. AVG.
ARIZONA					
GRAND CANYON NAT P					
030370001 A03	0.6	0.9	1.2	1.1	0.9
ARKANSAS					
MONTGOMERY CO					
041760001 A03	0.8	1.3	1.2	1.4	1.2
CALIFORNIA					
HUMBOLDT CO					
053300001 A03	0.8	1.0	1.1	0.7	0.9
COLORADO					
MESA VERDE NAT PAR					
061530002 A03	0.6	0.6	0.9	0.6	0.7
FLORIDA					
HARDEE CO					
101680001 A03	3.6	1.1	1.8	1.3	1.7
IDAHO					
BUTTE CO					
130340001 A03	0.6	0.5	0.7	0.6	0.6
INDIANA					
MONROE CO					
152800001 A03	1.1	1.0	0.8	1.0	1.0
PARKE CO					
153260001 A03	2.1	1.8	1.9	1.8	1.9
MAINE					
ACADIA NAT PARK					
200010001 A03	0.6	0.9	1.2	0.8	0.9
MISSOURI					
SHANNON CO					
264480002 A03	1.2	1.7	1.0	1.0	1.2
NEBRASKA					
THOMAS CO					
282480001 A03	0.9	1.0	1.2	1.1	1.0
NEVADA					
WHITE PINE CO					
290560001 A03	0.5	0.5	0.6	0.8	0.6
NEW HAMPSHIRE					
COOS CO					
300140001 A03	0.8	1.1	1.4	0.9	1.0

LOCATION	1ST QTR.	2ND QTR.	3RD QTR.	4TH QTR.	YR. AVG.
NEW YORK					
JEFFERSON CO					
333340001 A03	0.9	0.9	1.8	0.9	1.1
NORTH CAROLINA					
CAPE HATTERAS NAT					
340590001 A03	1.0	0.6	0.7	3.1	1.3
OKLAHOMA					
CHEROKEE CO					
370480001 A03	1.6	4.2	1.4	2.1	2.3
OREGON					
CURRY CO					
380440001 A03	0.6	0.6	0.7	0.5	0.6
PENNSYLVANIA					
CLARION CO					
391760001 A03	1.9	2.1	2.1	1.9	1.7
RHODE ISLAND					
WASHINGTON CO					
410380002 A03	1.8	1.3	1.0	1.6	1.4
TENNESSEE					
CUMBERLAND CO					
440680001 A03	1.5	1.1	0.9	3.7	1.8
TEXAS					
MATAGORDA CO					
453530001 A03	0.9	0.7	0.9	1.5	1.0
TOM GREEN CO					
455200001 A03	1.4	1.1	1.0	1.2	1.2
VERMONT					
ORANGE CO					
470360001 A03	1.2	1.0	0.9	1.4	1.1
VIRGINIA					
SHENANDOAH NAT PAR					
482890001 A03	1.1	1.0	1.4	1.0	1.1
WYTHE CO					
483440001 A03	1.2	1.2	1.0	1.0	1.1
WASHINGTON					
KING CO					
490980002 A03	2.6	1.6	2.3	4.3	2.7

SECTION 4. URBAN AND NONURBAN ORGANICS IN SUSPENDED PARTICULATES: BENZO(A)PYRENE

Table 4-1. BENZO(A)PYRENE, URBAN QUARTERLY COMPOSITES AND YEARLY AVERAGES, 1969

(ng/m^3)

LOCATION	1ST QTR.	2ND QTR.	3RD QTR.	4TH QTR.	YR. AVG.
ALABAMA					
GADSDEN					
011480001 A01	3.27	1.11	0.40	2.26	1.76
HUNTSVILLE					
011860001 A01	3.27	0.83	0.73	2.45	1.82
MOBILE					
012380001 A01	4.01	1.80	1.40	3.07	2.57
MONTGOMERY					
012460001 A01	3.59	1.58	0.56	2.43	2.04
ALASKA					
ANCHORAGE					
020040003 A01	1.91	0.82	1.31	1.08	1.28
FAIRBANKS					
020160001 A01	13.98	3.40	2.65	7.55	6.89
ARIZONA					
MARICOPA CO					
030440001 A01	0.40	0.26	0.21	0.23	0.27
PHOENIX					
030600002 A01	3.02	0.80	0.60	4.20	2.15
TUCSON					
030860001 A01	0.83	0.20	0.34	0.77	0.53
ARKANSAS					
LITTLE ROCK					
041440001 A01	1.43	0.83	0.56	1.40	1.05
TEXARKANA					
042560001 A01	1.55	0.0	0.38	0.72	0.69
WEST MEMPHIS					
042740001 A01	3.09	0.25	0.66	5.66	2.41
CALIFORNIA					
ANAHEIM					
050230001 A01	2.19	0.55	0.33	1.92	1.25
BURBANK					
050900002 A01	3.79	0.45	0.62	6.60	2.86
FRESNO					
052800001 A01	1.94	0.39	0.34	5.56	2.06
GLENDALE					
052940001 A01	2.27	0.38	0.48	3.39	1.63
LONG BEACH					
054100001 A01	2.25	0.46	0.40	5.98	2.27
LOS ANGELES					
054180001 A01	2.98	0.79	0.64	3.05	1.86
OAKLAND					
055300001 A01	2.92	0.57	0.46	2.49	1.61
ONTARIO					
055380001 A01	0.71	0.40	0.50	0.71	0.58
RIVERSIDE					
056400001 A01	1.60	0.30	0.37	1.03	0.82
SACRAMENTO					
056580001 A01	1.50	0.60	0.30	4.75	1.79
SAN BERNARDINO					
056680001 A01	1.32	0.66	0.37	1.27	0.90
SAN DIEGO					
056800001 A01	2.44	0.48	0.40	2.19	1.38
SAN FRANCISCO					
056860001 A01	1.25	0.60	0.57	2.18	1.15
SAN JOSE					
056980002 A01	3.21	0.26	0.54	4.46	2.12
SANTA ANA					
057180001 A01	2.20	0.77	0.24	2.91	1.53
TORRANCE					
058260001 A01	2.24	0.48	0.22	3.21	1.54
COLORADO					
DENVER					
060580001 A01	4.10	0.92	0.91	4.13	2.51

LOCATION	1ST QTR.	2ND QTR.	3RD QTR.	4TH QTR.	YR. AVG.
CONNECTICUT					
BRIDGEPORT					
070060001 A01	2.79	1.43	0.83	1.63	1.67
HARTFORD					
070420001 A01	3.30	1.42	0.45	2.65	1.95
NEW HAVEN					
070700001 A01	4.32	1.61	0.55	1.92	2.10
WATERBURY					
071240001 A01	4.12	2.00	0.89	2.15	2.29
DELAWARE					
WILMINGTON					
080260001 A01	2.38	0.58	0.91	2.95	1.70
DIST COLUMBIA					
WASHINGTON					
090020001 A01	5.53	1.49	0.86	9.47	4.34
FLORIDA					
JACKSONVILLE					
101960002 A01	6.12	1.10	0.61	1.36	2.30
MIAMI					
102700002 A01	1.14	0.77	0.51	1.25	0.92
ST PETERSBURG					
103980002 A01	0.55	0.0	0.0	6.98	*****
TAMPA					
104360002 A01	1.36	0.41	0.34	1.89	1.00
GEORGIA					
ATLANTA					
110200001 A01	3.46	1.03	0.71	2.23	1.86
COLUMBUS					
111280001 A01	2.85	1.06	0.41	0.98	1.32
SAVANNAH					
114500001 A01	3.74	0.40	0.46	1.53	1.53
HAWAII					
HONOLULU					
120120001 A01	0.83	0.42	0.38	0.64	0.57
IDAHO					
BOISE CITY					
130220001 A01	5.48	6.23	2.16	9.96	5.96
ILLINOIS					
CHICAGO					
141220001 A01	7.20	3.21	1.60	3.52	3.88
EAST ST LOUIS					
142120001 A01	8.32	0.97	0.84	4.02	3.54
JOLIET					
143760001 A01	4.30	2.52	1.49	5.83	3.53
NORTH CHICAGO					
145620002 A01	1.49	2.43	0.89	1.29	1.52
PEORIA					
146080001 A01	1.96	1.09	0.94	1.61	1.40
ROCKFORD					
146680001 A01	4.26	0.37	0.33	1.09	1.51
SPRINGFIELD					
147280001 A01	2.87	0.72	0.52	0.97	1.27
INDIANA					
EAST CHICAGO					
151180001 A01	9.38	6.20	3.45	7.98	6.75
EVANSVILLE					
151300001 A01	4.12	0.95	0.62	1.54	1.81
FORT WAYNE					
151380001 A01	2.95	1.02	0.99	3.32	2.07
GARY					
151520001 A01	5.47	3.59	1.44	4.67	3.79
HAMMOND					
151780001 A01	3.47	5.58	0.91	3.22	3.29

Table 4-1 (continued). BENZO(A)PYRENE, URBAN QUARTERLY COMPOSITES AND YEARLY AVERAGES, 1969

(ng/m^3)

LOCATION	1ST QTR.	2ND QTR.	3RD QTR.	4TH QTR.	YR. AVG.
INDIANA					
INDIANAPOLIS					
152040001 A01	8.89	4.68	2.11	5.04	5.18
NEW ALBANY					
152980002 A01	9.75	2.35	1.68	3.51	4.32
SOUTH BEND					
153880002 A01	3.53	1.72	0.93	8.76	3.73
TERRE HAUTE					
154080001 A01	6.80	4.85	1.20	2.95	3.95
IOWA					
DAVENPORT					
161060001 A01	3.78	0.86	0.52	1.52	1.67
DES MOINES					
161180001 A01	1.73	0.51	0.55	0.89	0.92
DUBUQUE					
161260001 A01	1.56	0.83	0.45	0.99	0.96
KANSAS					
KANSAS CITY					
171800002 A01	1.71	0.58	0.59	1.59	1.12
TOPEKA					
173560001 A01	0.48	0.43	0.0	0.77	0.44
WICHITA					
173740001 A01	0.68	0.36	0.48	1.18	0.67
KENTUCKY					
ASHLAND					
180080002 A01	21.17	6.38	6.21	9.80	10.89
COVINGTON					
180800001 A01	6.12	2.08	1.57	6.69	4.11
LOUISVILLE					
182380001 A01	2.79	1.26	1.50	2.07	1.90
LOUISIANA					
BATON ROUGE					
190280001 A01	0.77	0.34	0.35	1.17	0.66
NEW ORLEANS					
192020002 A01	1.41	0.89	0.55	3.22	1.52
SHREVEPORT					
192740001 A01	0.75	0.35	0.39	2.13	0.90
MARYLAND					
BALTIMORE					
210120001 A01	5.51	2.55	1.00	1.98	2.76
MASSACHUSETTS					
BOSTON					
220240001 A01	2.92	1.07	2.54	1.01	1.88
FALL RIVER					
220580002 A01	1.96	0.95	0.47	0.55	0.98
SPRINGFIELD					
222160002 A01	2.53	0.95	0.41	0.13	1.50
WORCHESTER					
222640001 A01	2.29	1.29	0.66	1.69	1.48
MICHIGAN					
DEARBORN					
231140001 A01	7.68	2.44	2.64	2.74	3.87
DETROIT					
231180001 A01	6.54	2.89	1.87	4.35	3.91
FLINT					
231580001 A01	3.69	1.15	0.41	1.52	1.69
GRAND RAPIDS					
231820001 A01	2.28	2.58	0.69	1.25	1.70
LANSING					
232840001 A01	2.31	1.26	0.47	1.03	1.27
TRENTON					
235120001 A01	2.58	0.77	0.67	2.20	1.55
MINNESOTA					
DULUTH					
241040001 A01	3.01	2.95	0.85	1.53	2.08

LOCATION	1ST QTR.	2ND QTR.	3RD QTR.	4TH QTR.	YR. AVG.
MINNESOTA (CONT)					
MINNEAPOLIS					
242260001 A01	1.60	1.44	0.25	2.42	1.43
MOORHEAD					
242320001 A01	1.94	0.67	0.57	1.00	1.04
ST PAUL					
243300001 A01	3.18	1.20	0.50	2.14	1.75
MISSOURI					
KANSAS CITY					
262380002 A01	1.93	0.69	1.19	2.40	1.55
ST LOUIS					
264280001 A01	3.98	1.82	2.03	5.43	3.31
MONTANA					
HELENA					
270720001 A01	1.21	0.0	0.0	0.58	*****
NEBRASKA					
OMAHA					
281880001 A01	1.34	2.52	0.97	1.39	1.55
NEVADA					
LAS VEGAS					
290320001 A01	1.24	0.25	0.52	2.72	1.18
RENO					
290480001 A01	3.19	1.14	0.71	5.96	2.75
NEW HAMPSHIRE					
CONCORD					
300120001 A01	1.10	0.53	0.29	0.67	0.65
NEW JERSEY					
CAMDEN					
310720001 A01	2.34	1.38	2.34	3.60	2.41
ELIZABETH					
311300001 A01	2.32	1.40	1.06	1.76	1.63
GLASSBORO					
311700001 A01	1.86	0.63	0.90	0.98	1.09
HAMILTON					
311940001 A01	2.60	3.05	1.58	3.60	2.46
JERSEY CITY					
312320001 A01	5.36	1.55	1.13	2.67	2.68
NEWARK					
313480001 A01	2.72	1.60	1.40	1.58	1.82
PATERSON					
314140001 A01	2.75	0.66	0.60	0.96	1.24
PERTH AMBOY					
314220001 A01	2.03	0.70	0.73	1.34	1.20
TRENTON					
315400001 A01	2.13	1.28	1.04	1.41	1.46
NEW MEXICO					
ALBUQUERQUE					
320040001 A01	1.02	0.23	0.29	2.95	1.12
NEW YORK					
ALBANY					
330040001 A01	2.51	0.49	0.92	0.88	1.20
BUFFALO					
330660001 A01	8.65	1.49	2.67	4.01	4.20
NEW YORK CITY					
334680001 A01	7.24	4.07	0.97	2.23	3.63
NIAGARA FALLS					
334740001 A01	4.37	4.42	3.40	2.94	3.78
ROCHESTER					
335760001 A01	2.26	2.22	1.25	2.31	2.01
SYRACUSE					
336620001 A01	3.48	1.44	1.72	2.12	2.19
UTICA					
336880001 A01	1.55	2.87	1.62	1.48	1.88

Table 4-1 (continued) BENZO(A)PYRENE, URBAN QUARTERLY COMPOSITES AND YEARLY AVERAGES, 1969

(ng/m^3)

LOCATION	1ST QTR.	2ND QTR.	3RD QTR.	4TH QTR.	YR. AVG.
NORTH CAROLINA					
CHARLOTTE					
340700001 A01	12.47	1.15	0.67	5.13	4.85
DURHAM					
341160001 A01	7.70	1.08	0.51	4.24	3.38
GREENSBORO					
341740001 A01	3.80	0.82	1.23	2.76	2.15
WINSTON-SALEM					
344460002 A01	4.83	1.56	0.94	6.99	3.58
NORTH DAKOTA					
BISMARCK					
350100001 A01	0.84	0.55	1.39	1.07	0.96
OHIO					
AKRON					
360060001 A01	5.73	2.62	1.69	1.67	2.93
CANTON					
361000001 A01	7.39	3.82	2.23	2.90	4.08
CINCINNATI					
361220001 A01	3.52	4.76	1.24	2.10	2.90
CLEVELAND					
361300001 A01	4.83	6.50	1.42	2.26	3.75
COLUMBUS					
361460001 A01	4.45	3.34	1.27	1.88	2.73
DAYTON					
361660001 A01	2.93	1.71	1.33	1.57	1.88
TOLEDO					
366600001 A01	2.26	1.52	0.82	1.35	1.49
YOUNGSTOWN					
367760001 A01	17.10	7.84	8.52	5.98	9.86
OKLAHOMA					
OKLAHOMA CITY					
372200001 A01	0.71	0.47	0.58	1.10	0.71
TULSA					
373000001 A01	0.90	0.24	0.0	0.64	0.47
OREGON					
MEDFORD					
381160001 A01	2.60	2.18	1.45	9.97	4.05
PORTLAND					
381460001 A01	3.67	2.21	1.25	3.27	2.60
PENNSYLVANIA					
ALLENTOWN					
390120001 A01	3.31	1.62	1.12	1.65	1.92
ALTOONA					
390140001 A01	25.91	34.98	4.09	24.16	22.28
BETHLEHEM					
390780002 A01	2.28	1.34	2.84	1.53	2.00
ERIE					
393060002 A01	1.61	3.17	2.07	0.75	1.90
HARRISBURG					
393880001 A01	1.98	1.73	0.81	1.30	1.45
HAZLETON					
393960001 A01	19.96	3.26	1.54	0.61	6.34
JOHNSTOWN					
394460001 A01	14.46	14.32	4.85	5.01	9.66
PHILADELPHIA					
397140001 A01	6.33	1.69	1.41	0.68	4.03
PITTSBURGH					
397260001 A01	21.32	18.27	6.04	9.37	13.75
READING					
397620001 A01	3.10	1.00	1.57	1.35	1.75
SCRANTON					
398040001 A01	8.90	13.96	3.65	4.11	7.65
WARMINSTER					
399160001 A01	2.39	0.53	0.51	0.65	1.02
WEST CHESTER					
399280001 A01	2.45	0.74	0.93	0.97	1.27
WILKES-BARRE					
399430001 A01	2.88	1.44	0.91	0.95	1.54
YORK					
399560001 A01	2.66	1.86	0.71	2.79	2.00
PUERTO RICO					
BAYAMON					
400380002 A01	1.83	0.81	1.00	1.27	1.23
PONCE					
401920002 A01	1.98	0.48	0.72	1.03	1.05
SAN JUAN					
402140001 A01	1.82	1.23	1.71	1.24	1.50
RHODE ISLAND					
EAST PROVIDENCE					
410120001 A01	1.02	1.13	1.65	1.05	1.21
PROVIDENCE					
410300001 A01	5.01	1.39	0.60	1.59	2.15
SOUTH CAROLINA					
COLUMBIA					
420760001 A01	3.54	0.56	0.51	0.52	1.28
GREENVILLE					
421180001 A01	19.60	2.84	0.66	4.91	7.00
TENNESSEE					
CHATTANOOGA					
440380001 A01	9.83	2.33	1.25	3.29	4.17
KNOXVILLE					
441740001 A01	9.86	3.02	1.50	4.33	4.68
MEMPHIS					
442340001 A01	0.95	0.74	0.48	0.78	0.74
NASHVILLE					
442540001 A01	5.73	1.76	0.77	2.93	2.80
TEXAS					
DALLAS					
451310002 A01	3.46	0.84	0.74	2.76	1.95
FORT WORTH					
451880001 A01	2.18	4.32	0.85	1.43	2.19
PASADENA					
454060002 A01	0.74	0.61	0.45	1.53	0.83
SAN ANTONIO					
454570001 A01	0.71	0.21	0.30	1.31	0.63
UTAH					
OGDEN					
460680001 A01	0.80	0.26	0.29	1.34	0.67
SALT LAKE CITY					
460920001 A01	0.97	0.0	0.31	1.21	0.65
VERMONT					
BURLINGTON					
470140001 A01	0.75	0.58	0.0	0.49	0.48
VIRGINIA					
DANVILLE					
480920001 A01	4.81	0.44	0.30	1.63	1.79
HAMPTON					
481440001 A01	2.39	0.35	0.23	0.55	0.88
LYNCHBURG					
481840001 A01	15.61	3.10	1.19	5.24	6.28
NEWPORT NEWS					
482120001 A01	3.85	0.73	0.37	0.82	1.44
NORFOLK					
482140001 A01	3.63	10.04	0.56	1.41	3.91
PORTSMOUTH					
482640001 A01	8.06	1.69	0.73	3.07	3.39

Table 4-1 (continued). BENZO(A)PYRENE, URBAN QUARTERLY COMPOSITES AND YEARLY AVERAGES, 1969

(ng/m^3)

LOCATION	1ST QTR.	2ND QTR.	3RD QTR.	4TH QTR.	YR. AVG.
VIRGINIA					
RICHMOND					
482660002 A01	4.57	1.02	0.66	2.58	2.21
ROANOKE					
482700001 A01	13.14	1.33	0.62	6.12	5.30
WASHINGTON					
SEATTLE					
491840001 A01	1.84	0.88	0.46	3.12	1.57
SPOKANE					
492040001 A01	3.16	1.15	1.15	7.51	3.24
TACOMA					
492140001 A01	2.76	0.83	0.49	5.89	2.49
WEST VIRGINIA					
CHARLESTON					
500280001 A01	4.60	2.81	0.89	2.21	2.63
WISCONSIN					
EAU CLAIRE					
510840002 A01	1.57	0.50	0.32	0.54	0.73
WISCONSIN (CONT)					
KENOSHA					
511540001 A01	1.98	2.59	0.53	1.85	1.74
MADISON					
511860001 A01	1.94	0.60	0.68	35.28	9.62
MILWAUKEE					
512200001 A01	7.42	3.83	2.03	2.85	4.03
RACINE					
512860001 A01	0.94	1.11	0.55	0.47	0.77
SUPERIOR					
513480001 A01	2.93	1.08	0.72	1.60	1.58
WYOMING					
CASPER					
520120001 A01	0.48	0.69	0.77	0.46	0.60
CHEYENNE					
520140001 A01	0.32	0.57	0.67	0.28	0.46

Table 4-2. BENZO(A)PYRENE, NONURBAN QUARTERLY COMPOSITES AND YEARLY AVERAGES, 1969

(ng/m^3)

LOCATION	1ST QTR.	2ND QTR.	3RD QTR.	4TH QTR.	YR. AVG.
ARIZONA					
GRAND CANYON NAT P					
030370001 A03	0.11	0.31	0.22	0.09	0.18
ARKANSAS					
MONTGOMERY CO					
041760001 A03	0.18	0.29	0.21	0.0	0.18
CALIFORNIA					
HUMBOLDT CO					
053300001 A03	0.37	0.18	0.18	1.25	0.49
COLORADO					
MESA VERDE NAT PAR					
061530002 A03	0.08	0.21	0.08	0.0	0.10
FLORIDA					
HARDEE CO					
101680001 A03	0.23	0.0	0.48	0.0	*****
IDAHO					
BUTTE CO					
130340001 A03	0.08	0.15	0.11	0.0	0.09
INDIANA					
MONROE CO					
152800001 A03	0.57	0.14	0.15	0.14	0.25
PARKE CO					
153260001 A03	0.37	0.39	0.10	0.19	0.26
MAINE					
ACADIA NAT PARK					
200010001 A03	0.13	0.19	0.12	0.0	0.12
MARYLAND					
CALVERT CO					
210280001 A03	0.71	0.43	0.29	0.18	0.40
MISSOURI					
SHANNON CO					
264480002 A03	0.24	0.16	0.17	0.08	0.16
MONTANA					
GLACIER NAT PARK					
270570001 A03	0.41	0.51	0.26	0.36	0.38
NEBRASKA					
THOMAS CO					
282480001 A03	0.15	0.08	0.24	0.0	0.13
NEVADA					
WHITE PINE CO					
290560001 A03	0.11	0.10	0.0	0.0	*****
NEW HAMPSHIRE					
COOS CO					
300140001 A03	0.13	0.12	0.15	0.0	0.11

LOCATION	1ST QTR.	2ND QTR.	3RD QTR.	4TH QTR.	YR. AVG.
NEW YORK					
JEFFERSON CO					
333340001 A03	0.26	0.35	0.25	0.16	0.25
NORTH CAROLINA					
CAPE HATTERAS NAT					
340590001 A03	0.20	0.11	0.0	0.09	0.11
OKLAHOMA					
CHEROKEE CO					
370480001 A03	0.14	0.19	0.0	0.34	0.18
OREGON					
CURRY CO					
380440001 A03	0.11	0.0	0.0	0.13	*****
PENNSYLVANIA					
CLARION CO					
391760001 A03	2.52	0.83	1.04	0.54	1.23
RHODE ISLAND					
WASHINGTON CO					
410380002 A03	0.49	0.18	0.39	0.10	0.29
SOUTH CAROLINA					
RICHLAND CO					
421900001 A03	1.10	0.21	0.22	0.18	0.43
SOUTH DAKOTA					
BLACK HILLS NAT FO					
430110001 A03	0.12	0.08	0.19	0.0	0.11
TENNESSEE					
CUMBERLAND CO					
440680001 A03	0.87	0.08	0.25	0.27	0.37
TEXAS					
MATAGORDA CO					
453530001 A03	0.15	0.09	0.16	0.08	0.12
VERMONT					
ORANGE CO					
470360001 A03	0.32	0.50	0.22	0.10	0.28
VIRGINIA					
SHENANDOAH NAT PAR					
482890001 A03	0.54	0.14	0.27	0.31	0.31
WYTHE CO					
483440001 A03	1.26	0.20	0.31	0.31	0.52
WISCONSIN					
DOOR CO					
510780001 A03	0.09	0.11	0.10	0.0	0.08
WYOMING					
YELLOWSTONE NAT PA					
520860001 A03	0.0	0.0	0.0	0.08	*****

Table 4-3. BENZO(A)PYRENE, URBAN QUARTERLY COMPOSITES AND YEARLY AVERAGES, 1970

(ng/m^3)

LOCATION	1ST QTR.	2ND QTR.	3RD QTR.	4TH QTR.	YR. AVG.
ALABAMA					
GADSDEN					
011480001 A01	7.46	0.31	0.26	1.96	2.50
HUNTSVILLE					
011860001 A01	3.52	0.40	0.27	2.07	1.56
MONTGOMERY					
012460001 A01	2.89	0.74	0.42	1.18	1.31
ALASKA					
ANCHORAGE					
020040003 A01	1.55	0.44	0.41	0.68	0.77
ARIZONA					
MARICOPA CO					
030440001 A01	0.82	0.0	0.0	0.0	*****
TUCSON					
030860001 A01	0.62	0.33	0.0	0.60	0.41
ARKANSAS					
LITTLE ROCK					
041440001 A01	0.79	0.64	0.28	0.90	0.65
WEST MEMPHIS					
042740001 A01	0.30	0.37	0.48	1.22	0.59
CALIFORNIA					
ANAHEIM					
050230001 A01	1.25	0.52	0.49	1.90	1.04
BURBANK					
050900002 A01	3.09	0.73	0.71	3.13	1.91
FRESNO					
052800002 A01	2.39	0.36	0.54	1.61	1.22
GLENDALE					
052940001 A01	1.26	0.48	0.83	1.33	0.97
LONG BEACH					
054100001 A01	1.53	0.37	0.52	1.57	1.00
LOS ANGELES					
054180001 A01	1.73	0.75	1.04	1.40	1.23
OAKLAND					
055300001 A01	1.77	0.43	0.68	0.92	0.95
ONTARIO					
055380001 A01	0.47	0.31	0.69	0.73	0.55
PASADENA					
055760002 A01	0.67	0.34	0.60	1.33	0.73
RIVERSIDE					
056400001 A01	1.02	0.52	0.53	0.60	0.67
SACRAMENTO					
056580001 A01	1.72	0.43	0.31	0.43	0.72
SAN BERNARDINO					
056680001 A01	0.82	0.56	0.53	1.43	0.83
SAN DIEGO					
056800001 A01	1.17	0.25	0.39	0.78	0.65
SAN FRANCISCO					
056860001 A01	0.77	0.30	0.53	0.92	0.63
SANTA ANA					
057180001 A01	0.93	0.61	0.37	1.56	0.87
TORRANCE					
058260001 A01	1.88	0.63	0.0	1.78	1.10
COLORADO					
DENVER					
060580001 A01	3.92	0.99	0.76	3.13	2.20
CONNECTICUT					
BRIDGEPORT					
07006C001 A01	1.66	0.53	0.43	1.27	0.97
HARTFORD					
070420001 A01	1.52	0.82	2.11	1.04	1.37
NEW HAVEN					
070700001 A01	1.82	1.13	0.69	1.21	1.21
WATERBURY					
071240001 A01	2.65	1.33	0.66	3.89	2.13

LOCATION	1ST QTR.	2ND QTR.	3RD QTR.	4TH QTR.	YR. AVG.
DELAWARE					
NEWARK					
080140001 A01	0.53	0.28	0.0	0.42	0.33
WILMINGTON					
080260003 A01	2.09	0.80	0.50	1.10	1.12
FLORIDA					
JACKSONVILLE					
101960002 A01	1.41	1.23	0.68	2.07	1.35
MIAMI					
102700002 A01	0.50	0.24	0.45	0.46	0.41
ST PETERSBURG					
103980002 A01	0.0	0.0	0.0	0.22	*****
TAMPA					
104360002 A01	0.69	0.27	0.54	0.36	0.46
GEORGIA					
ATLANTA					
110200001 A01	2.05	0.52	0.48	0.65	0.92
COLUMBUS					
111280001 A01	1.29	0.64	0.53	0.76	0.80
SAVANNAH					
114500001 A01	1.74	0.26	0.25	0.77	0.75
HAWAII					
HONOLULU					
120120001 A01	0.26	0.0	0.0	0.21	*****
IDAHO					
BOISE CITY					
130220001 A01	2.53	0.55	0.34	1.14	1.14
ILLINOIS					
CHICAGO					
141220001 A01	2.86	1.56	1.87	1.70	2.00
NORTH CHICAGO					
145620002 A01	0.59	1.30	0.61	1.09	0.90
PEORIA					
146080001 A01	1.81	0.79	0.61	1.16	1.09
SPRINGFIELD					
147280001 A01	1.48	0.50	0.59	0.85	0.85
INDIANA					
EAST CHICAGO					
151180001 A01	9.03	6.11	2.13	3.78	5.26
EVANSVILLE					
151300001 A01	1.92	0.33	0.32	0.45	0.75
FORT WAYNE					
151380001 A01	2.09	0.47	0.56	1.51	1.16
GARY					
151520001 A01	6.06	1.30	1.12	2.97	2.86
HAMMOND					
151780001 A01	2.82	1.25	1.13	1.49	1.67
INDIANAPOLIS					
152040001 A01	3.73	1.09	1.54	2.92	2.32
NEW ALBANY					
152980002 A01	10.06	0.64	0.55	3.43	3.67
SOUTH BEND					
153880002 A01	6.66	1.01	0.59	1.49	2.44
TERRE HAUTE					
154080001 A01	6.27	0.98	0.90	3.18	2.83
IOWA					
CEDAR RAPIDS					
160640001 A01	0.38	0.0	0.0	0.43	*****
DAVENPORT					
161060001 A01	1.42	0.43	0.70	1.05	0.90
DES MOINES					
161180001 A01	0.92	0.46	0.72	0.67	0.69

Table 4-3 (continued). BENZO(A)PYRENE, URBAN QUARTERLY COMPOSITES AND YEARLY AVERAGES, 1970

(ng/m^3)

LOCATION	1ST QTR.	2ND QTR.	3RD QTR.	4TH QTR.	YR. AVG.
KANSAS					
KANSAS CITY					
171800002 A01	6.01	0.47	0.53	2.64	2.41
TOPEKA					
173560001 A01	0.44	0.0	0.25	0.44	0.31
WICHITA					
173740001 A01	1.06	0.0	0.26	0.58	0.50
KENTUCKY					
ASHLAND					
180080002 A01	4.34	6.34	5.90	10.10	6.67
BOWLING GREEN					
180320001 A01	0.92	0.0	0.30	1.51	0.71
COVINGTON					
180800001 A01	13.73	1.00	0.57	2.21	4.38
LEXINGTON					
182300001 A01	1.96	0.37	0.21	3.86	1.60
LOUISIANA					
BATON ROUGE					
190280001 A01	0.47	0.29	0.58	0.77	0.53
NEW ORLEANS					
192020002 A01	1.03	0.77	1.29	1.47	1.14
SHREVEPORT					
192740001 A01	0.60	0.36	0.47	1.20	0.66
MAINE					
PORTLAND					
200960002 A01	1.23	1.33	0.96	1.06	1.14
MARYLAND					
BALTIMORE					
210120001 A01	2.47	1.02	1.76	3.00	2.06
MASSACHUSETTS					
FALL RIVER					
220580002 A01	0.71	0.44	0.53	6.67	2.09
SPRINGFIELD					
222160002 A01	2.00	0.58	0.42	2.09	1.27
WORCHESTER					
222640001 A01	2.65	0.98	0.62	2.26	1.63
MICHIGAN					
DETROIT					
231180001 A01	4.14	1.68	1.10	3.33	2.56
FLINT					
231580001 A01	0.65	0.22	0.31	0.77	0.49
GRAND RAPIDS					
231820001 A01	1.74	0.51	0.43	0.90	0.89
LANSING					
232840001 A01	1.18	0.55	0.58	4.06	3.09
SAGINAW					
234760001 A01	1.17	0.64	0.65	1.06	0.88
TRENTON					
235120001 A01	1.60	0.63	0.38	0.76	0.84
MINNESOTA					
DULUTH					
241040001 A01	2.08	0.62	0.42	1.26	1.09
MINNEAPOLIS					
242260001 A01	1.13	0.46	0.0	0.79	0.62
MOORHEAD					
242320001 A01	0.92	0.76	0.49	4.21	1.59
ST PAUL					
243300001 A01	1.72	0.44	0.69	1.19	1.01
MISSOURI					
KANSAS CITY					
262380002 A01	1.79	0.46	1.00	1.17	1.10
NEBRASKA					
LINCOLN					
281560002 A01	0.47	0.21	0.0	0.43	0.30

LOCATION	1ST QTR.	2ND QTR.	3RD QTR.	4TH QTR.	YR. AVG.
NEBRASKA (CONT)					
OMAHA					
281880001 A01	1.48	0.90	0.74	0.92	1.01
NEW HAMPSHIRE					
CONCORD					
300120001 A01	1.19	0.25	0.24	0.77	0.61
NEW JERSEY					
BURLINGTON CO					
310660002 A01	3.14	0.95	0.44	1.08	1.40
CAMDEN					
310720001 A01	2.55	2.75	0.72	1.68	1.92
ELIZABETH					
311300002 A01	2.44	1.12	0.67	1.81	1.51
GLASSBORO					
311700001 A01	2.92	0.77	0.39	0.63	1.18
JERSEY CITY					
312320001 A01	3.09	2.71	11.00	1.81	4.65
NEWARK					
313480001 A01	1.74	1.37	0.85	2.15	1.53
PATERSON					
314140001 A01	1.65	0.78	0.50	1.86	1.20
PERTH AMBOY					
314220001 A01	1.54	0.81	0.58	1.12	1.01
TRENTON					
315400001 A01	1.89	0.75	0.60	1.17	1.10
NEW MEXICO					
ALBUQUERQUE					
320040001 A01	1.05	0.43	0.58	2.17	1.06
NEW YORK					
BUFFALO					
330660001 A01	2.73	5.37	3.09	3.19	3.59
NEW YORK CITY					
334680001 A01	4.06	1.75	1.19	4.57	2.89
NIAGARA FALLS					
334740001 A01	5.78	3.41	2.44	4.78	4.10
ROCHESTER					
335760001 A01	1.91	1.48	1.28	1.59	1.56
SYRACUSE					
336620001 A01	1.61	1.25	1.04	3.02	1.73
UTICA					
336880001 A01	1.80	1.71	1.69	1.59	1.70
YONKERS					
337620001 A01	1.47	1.22	0.61	0.77	1.02
NORTH CAROLINA					
CHARLOTTE					
340700001 A01	3.85	0.56	0.50	2.49	1.85
DURHAM					
341160001 A01	6.45	0.87	0.60	5.61	3.38
GREENSBORO					
341740001 A01	1.69	1.02	0.67	1.51	1.22
WINSTON-SALEM					
344460002 A01	3.81	2.06	0.95	4.09	2.73
NORTH DAKOTA					
BISMARCK					
350100001 A01	0.34	0.24	0.60	0.60	0.44
OHIO					
CANTON					
361000001 A01	4.56	1.40	2.39	4.30	3.16
CINCINNATI					
361220001 A01	3.24	1.42	1.17	4.51	2.58
CLEVELAND					
361300001 A01	2.86	2.85	2.06	3.36	2.78
COLUMBUS					
361460001 A01	2.28	1.70	0.78	1.52	1.57

Table 4-3 (continued). BENZO(A)PYRENE, URBAN QUARTERLY COMPOSITES AND YEARLY AVERAGES, 1970

(ng/m^3)

LOCATION	1ST QTR.	2ND QTR.	3RD QTR.	4TH QTR.	YR. AVG.
OHIO					
DAYTON					
361660001 A01	1.87	0.90	1.24	1.92	1.48
TOLEDO					
366600001 A01	1.19	0.88	1.30	2.16	1.38
YOUNGSTOWN					
367760001 A01	4.77	3.64	6.44	13.65	7.12
OKLAHOMA					
OKLAHOMA CITY					
372200001 A01	0.67	0.46	0.81	1.57	0.88
TULSA					
373000001 A01	0.49	0.64	0.80	1.22	0.79
OREGON					
PORTLAND					
381460001 A01	4.00	1.20	1.00	3.03	2.31
PENNSYLVANIA					
ALLENTOWN					
390120001 A01	1.93	1.72	2.14	3.83	2.40
ALTOONA					
390140001 A01	41.42	7.36	4.06	24.15	19.25
BETHLEHEM					
390780002 A01	1.40	4.62	1.47	3.34	2.71
ERIE					
393060002 A01	0.49	2.36	2.39	3.43	2.17
HARRISBURG					
393880001 A01	1.46	0.74	1.20	2.71	1.53
JOHNSTOWN					
394460001 A01	10.35	4.96	4.53	15.28	8.78
PHILADELPHIA					
397140001 A01	3.12	2.04	1.56	3.05	2.44
PITTSBURGH					
397260001 A01	3.81	3.88	4.57	11.20	5.86
READING					
397620001 A01	1.79	0.84	1.11	2.49	1.56
SCRANTON					
398040001 A01	3.29	3.10	1.73	3.40	2.88
WILKES-BARRE					
399430001 A01	1.33	1.08	0.92	1.89	1.30
YORK					
399560001 A01	1.37	0.96	0.82	1.70	1.21
PUERTO RICO					
BAYAMON					
400380002 A01	0.84	0.89	1.28	2.15	1.29
CATANO					
400560002 A01	1.49	1.03	1.36	1.18	1.26
GUAYANILLA					
401080002 A01	0.0	0.26	0.78	1.14	0.57
PONCE					
401920002 A01	0.80	0.56	0.76	1.63	0.94
SAN JUAN					
402140001 A01	2.77	1.50	2.10	1.57	1.98
RHODE ISLAND					
EAST PROVIDENCE					
410120001 A01	1.17	0.76	0.70	2.27	1.22
PROVIDENCE					
410300001 A01	3.62	1.24	0.97	2.63	2.11
SOUTH CAROLINA					
GREENVILLE					
421180001 A01	6.10	1.60	0.71	5.16	3.39
TENNESSEE					
CHATTANOOGA					
440380001 A01	11.58	1.00	0.95	8.64	5.54
MEMPHIS					
442340001 A01	0.72	0.47	1.83	2.41	1.36

LOCATION	1ST QTR.	2ND QTR.	3RD QTR.	4TH QTR.	YR. AVG.
TENNESSEE (CONT)					
NASHVILLE					
442540001 A01	5.88	1.08	0.59	6.90	3.61
TEXAS					
DALLAS					
451310002 A01	2.53	1.01	1.15	2.77	1.86
EL PASO					
451700002 A01	1.86	0.43	0.47	3.22	1.49
FORT WORTH					
451880001 A01	1.87	1.74	1.12	2.50	1.81
HOUSTON					
452560001 A01	0.72	0.50	0.71	2.90	1.21
PASADENA					
454060002 A01	0.54	0.0	0.90	3.02	1.14
SAN ANTONIO					
454570001 A01	0.66	0.0	0.33	2.70	0.95
UTAH					
OGDEN					
460680001 A01	3.60	0.57	0.82	4.98	2.49
SALT LAKE CITY					
460920001 A01	1.62	0.22	0.61	3.33	1.44
VERMONT					
BURLINGTON					
470140001 A01	0.53	0.37	0.59	1.48	0.74
VIRGINIA					
DANVILLE					
480920001 A01	4.15	0.59	1.12	4.90	2.69
HAMPTON					
481440001 A01	1.05	0.0	0.58	2.61	1.08
LYNCHBURG					
481840001 A01	7.32	1.85	1.18	7.60	4.49
NEWPORT NEWS					
482120001 A01	1.67	0.0	0.82	2.27	1.21
NORFOLK					
482140001 A01	2.33	0.41	0.58	3.38	1.67
PORTSMOUTH					
482440001 A01	10.99	1.03	0.72	7.04	4.94
RICHMOND					
482660002 A01	3.49	0.57	0.64	3.52	2.05
ROANOKE					
482700001 A01	12.53	3.07	1.03	8.19	6.20
WASHINGTON					
SEATTLE					
491840001 A01	2.30	0.55	0.81	2.38	1.51
SPOKANE					
492040001 A01	4.73	0.51	0.92	4.40	2.64
TACOMA					
492140001 A01	6.03	0.21	1.30	3.84	2.84
WEST VIRGINIA					
CHARLESTON					
500280001 A01	3.27	1.49	1.01	2.66	2.11
SOUTH CHARLESTON					
501760001 A01	2.09	0.78	0.95	1.36	1.27
WISCONSIN					
EAU CLAIRE					
510840002 A01	0.63	0.39	0.59	1.22	0.71
KENOSHA					
511540001 A01	2.36	0.54	0.84	1.52	1.31
MADISON					
511860001 A01	1.56	0.55	0.71	1.46	1.07
MILWAUKEE					
512200001 A01	4.09	1.42	1.77	2.56	2.46
RACINE					
512880001 A01	0.85	0.34	0.74	1.74	0.92

Table 4-3 (continued). BENZO(A)PYRENE, URBAN QUARTERLY COMPOSITES AND YEARLY AVERAGES, 1970

(ng/m^3)

LOCATION	1ST QTR.	2ND QTR.	3RD QTR.	4TH QTR.	YR. AVG.
WISCONSIN					
SUPERIOR					
513480001 A01	3.19	0.49	0.58	1.75	1.50
WYOMING					
CASPER					
520120001 A01	0.52	0.27	0.61	0.37	0.44

LOCATION	1ST QTR.	2ND QTR.	3RD QTR.	4TH QTR.	YR. AVG.
WYOMING (CONT)					
CHEYENNE					
520140001 A01	0.52	0.0	0.48	0.63	0.43

Table 4-4. BENZO(A)PYRENE, NONURBAN QUARTERLY COMPOSITES AND YEARLY AVERAGES, 1970

(ng/m^3)

LOCATION	1ST QTR.	2ND QTR.	3RD QTR.	4TH QTR.	YR. AVG.
ARIZONA					
GRAND CANYON NAT P					
030370001 A03	0.11	0.0	0.11	0.15	0.10
ARKANSAS					
MONTGOMERY CO					
041760001 A03	0.19	0.0	0.08	0.21	0.13
CALIFORNIA					
HUMBOLDT CO					
053300001 A03	0.21	0.0	0.0	0.16	*****
COLORADO					
MESA VERDE NAT PAR					
061530002 A03	0.18	0.0	0.0	0.10	*****
FLORIDA					
HARDEE CO					
101680001 A03	0.44	0.0	0.0	0.23	*****
IDAHO					
BUTTE CO					
130340001 A03	0.12	0.0	0.0	0.08	*****
INDIANA					
MONROE CO					
152800001 A03	0.26	0.08	0.0	0.25	0.16
PARKE CO					
153260001 A03	0.74	0.0	0.18	0.59	0.39
MAINE					
ACADIA NAT PARK					
200010001 A03	0.25	0.0	0.37	0.16	0.20
MISSOURI					
SHANNON CO					
264480002 A03	0.39	0.0	0.15	0.13	0.18
NEBRASKA					
THOMAS CO					
282480001 A03	0.27	0.0	0.0	0.15	*****
NEVADA					
WHITE PINE CO					
290560001 A03	0.20	0.0	0.10	0.14	0.12
NEW HAMPSHIRE					
COOS CO					
300140001 A03	0.27	0.08	0.14	0.08	0.14

LOCATION	1ST QTR.	2ND QTR.	3RD QTR.	4TH QTR.	YR. AVG.
NEW YORK					
JEFFERSON CO					
333340001 A03	0.29	0.26	0.27	0.15	0.24
NORTH CAROLINA					
CAPE HATTERAS NAT					
340590001 A03	0.32	0.12	0.14	0.25	0.21
OKLAHOMA					
CHEROKEE CO					
370480001 A03	0.38	0.13	0.20	0.18	0.22
OREGON					
CURRY CO					
380440001 A03	0.19	0.0	0.11	0.0	*****
PENNSYLVANIA					
CLARION CO					
391760001 A03	1.00	1.91	1.10	0.92	1.23
RHODE ISLAND					
WASHINGTON CO					
410380002 A03	0.91	0.14	0.14	0.21	0.35
TENNESSEE					
CUMBERLAND CO					
440680001 A03	0.61	0.10	0.13	1.09	0.48
TEXAS					
MATAGORDA CO					
453530001 A03	0.16	0.0	0.15	0.72	0.27
TOM GREEN CO					
455200001 A03	0.17	0.0	0.10	0.08	0.10
VERMONT					
ORANGE CO					
470360001 A03	0.33	0.10	0.11	0.12	0.16
VIRGINIA					
SHENANDOAH NAT PAR					
482890001 A03	0.51	0.12	0.09	0.14	0.21
WYTHE CO					
483440001 A03	0.79	0.25	0.0	0.24	0.33
WASHINGTON					
KING CO					
490980002 A03	0.73	0.10	0.16	1.56	0.64